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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/630,102	07/28/2003	Reiyao Zhu	HT3915 US NA	8310

23906 7590 08/25/2005

E I DU PONT DE NEMOURS AND COMPANY
LEGAL PATENT RECORDS CENTER
BARLEY MILL PLAZA 25/1128
4417 LANCASTER PIKE
WILMINGTON, DE 19805

EXAMINER	
BEFUMO, JENNA LEIGH	

ART UNIT	PAPER NUMBER
1771	

DATE MAILED: 08/25/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/630,102	ZHU ET AL.	
	Examiner	Art Unit	
	Jenna-Leigh Befumo	1771	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *08 August 2005*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-20* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-20* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date *8/05, 3/05, 1/04*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

1. Claims 1 – 20 are pending.

Double Patenting

2. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970);and, *In re Thorington,* 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

3. Claims 1 – 20 are provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1 - 19 of copending Application No. 10/629,299 in view of Edwards (GB 2152542 A). Application 10/629,299 claims an intimate fiber blend of aramid fibers, nylon fibers, and modacrylic fibers. Thus, the difference between the present application and 10/629,299 is fire retardant cellulosic fibers are claimed as the third fiber type instead of modacrylic fibers. Edwards discloses fire retardant fabrics can be made from yarns comprising blends of fire retardant fibers selected from the group consisting of aramid fibers, modacrylic fibers, fire retardant polyester fibers, and fire retardant viscose fibers (abstract). The fire retardant fibers have different fire retardant characteristics and physical properties such as wear resistance, strength, hand, and dimensional stability (page 1, lines 14 – 20). Thus, picking the fire retardant fibers in the blend allows one of ordinary skill in the art to optimize or customize the fire retardant and physical properties of the finished fabric

for the specific end use of the fire retardant fabric (page 1, lines 108 – 130). Therefore, it would have been obvious to one having ordinary skill in the art to substitute known modacrylic fibers for the flame retardant cellulosic fibers used in the blend claimed in US 10/629,299 since Edwards discloses the types of fire retardant fibers in the blend can be chosen to customize or optimize the fire retardant properties as well as the physical properties the fibers bring to the end product such as comfort, texture, wear resistance, strength and dimensional stability.

This is a provisional obviousness-type double patenting rejection.

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. Claims 1 – 4, 9, and 10 are rejected under 35 U.S.C. 102(b) as being anticipated by Green (4,920,000).

Green discloses a fiber blend comprising cotton nylon and heat resistant fibers (abstract). The yarns spun from a fiber blend comprising 15 – 50% heat resistant fibers, 5 – 20% nylon fibers, and at least 30% cotton are woven into fabrics (column 1, lines 59 – 65). The heat resistant fibers are para-aramids (column 2, lines 50 – 53). Additionally the cotton fibers can be treated with a flame retardant treatment to provide additional protection against fire (column 2, lines 65 – 68). Thus, claims 1 – 4, 9 and 10 are anticipated.

6. Claims 1 – 4, and 9 – 14 are rejected under 35 U.S.C. 102(b) as being anticipated by Fleming et al. (5,468,545).

Fleming et al. discloses a fabrics made from a fiber blend comprising cotton and thermoplastic fibers which are used to produce a spun yarn which has extended wear life and retains the flame retardant treatment (abstract). The thermoplastic fibers can selected from nylon 6 and nylon 66 (column 3, lines 32 – 35). Also, the blend can include a thermoset component such as para-aramids and meta-aramids which add increased heat resistance (column 3, lines 37 – 45). The blend comprises 5 to 30% thermoplastic fibers, 50 to 95% flame resistant cotton, and 0 to 30% thermoset fibers (column 2, lines 5 – 10). Further, the examples produce fabrics have a basis weight of 270gsm (or 7.96 oz/yd^2) and 288 gsm (or 8.49 oz/yd^2). Thus, claims 1 – 4 and 9 – 14 are anticipated.

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

8. Claims 11 – 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Green.

The features of Green have been set forth above. Green fails to teach the basis weight of the finished fabric. However, it would have been obvious to one having ordinary skill in the art at the time the invention was made to choose a fabric basis weight, since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. *In re Aller*, 220 F.2d 454, 105 USPQ 233 (CCPA 1955). One of ordinary skill in the art would be motivated to choose a fabric which

would be light and comfortable to wear while also producing a fabric which is sufficiently heavy enough to protect the user for fire and related dangers. Therefore, claims 11 – 14 are rejected.

9. Claims 1 – 4 and 9 – 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Edwards (GB 2 152 542 A) in view of Green or Fleming et al.

Edwards is drawn to a fire retardant fabric made from a blend of fire retardant fibers. Edwards discloses that fire retardant fibers have different fire retardant characteristics and also differ in other properties such as wear resistance, strength, hand, and dimensional stability (column 1, lines 14 – 20). The blend can include different fire retardant materials including aramid fibers, such as Nomex® and fire retardant viscose fibers (page 1, lines 5 – 12). Nomex® fibers are meta-aramid fibers made from poly(metaphenylene isophthalamide). The fiber blend is based on various factors and is usually a compromise between performance and cost (page 1, lines 20 – 27). Aramid fibers are added to fabrics for abrasion or wear resistance (page 1, lines 17 – 20). Additionally, Edwards discloses staple yarns comprising blends of aramid fibers and fire retardant viscose fibers can produce a less expensive yarn without much loss of wear resistance and fire retardant properties (page 1, lines 15 – 30). However, Edwards fails to teach adding nylon fibers to the fiber blend.

The features of Green have been set forth above. Green is drawn to a fire retardant blend comprising 15 – 50% of a flame retardant aramid fiber, at least 30% of a cellulosic component which can be fire retardant, and 5 – 20% of a nylon fiber. The nylon component is added to the fiber blend to provide soft surface abrasion without a significant loss of softness and drape (column 2, lines 3 – 20).

The features of Fleming et al. have been set forth above. Fleming is drawn to a fire retardant blend comprising 50 – 95% of a flame retardant cellulose component, 0 – 30% of a thermoset, fire retardant aramid component, and 5 – 30% of a thermoplastic nylon component. Fleming teaches that the addition of nylon to a fire retardant blend can increase the wear life of garments made primarily from a cellulosic component and is desirable include them in those fabrics (column 1, lines 17 – 20). The fabric produced is comfortable, flexible, and has an extended wear life (column 1, lines 46 – 48).

Therefore, it would have been obvious to one having ordinary skill in the art to add 5 – 20% of a nylon fiber component as taught by Green or Fleming et al. to the fire-retardant blend disclosed by Edwards to produce a fire retardant fabric with good wear and heat resistance that is also inexpensive, comfortable and flexible. Further, it would have been obvious to one having ordinary skill in the art to use 5 – 30% by weight of an aramid fiber as disclosed by Green or Fleming et al. in the blend taught by Edwards since the aramid is more expensive than fire retardant viscose and produces stiffer yarns. Thus, claims 1 – 4, 9 and 10 are rejected.

Further, Edwards fails to teach the basis weight of the finished fabric. However, it would have been obvious to one having ordinary skill in the art at the time the invention was made to choose a fabric basis weight, since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. *In re Aller*, 220 F.2d 454, 105 USPQ 233 (CCPA 1955). One of ordinary skill in the art would be motivated to choose a fabric which would be light and comfortable to wear while also producing a fabric which is sufficiently heavy enough to protect the user for fire and related dangers. Therefore, claims 11 – 14 are rejected.

10. Claims 5 – 8 and 15 – 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Edwards and Green or Fleming et al. as applied to claim 1 above, and further in view of Paren et al. (5,417,752).

The features of Edwards, Green, and Fleming et al. have been set forth above. Edwards fails to teach the additives used in the fire retardant viscose fibers. Paren et al. is drawn to production of fire retardant viscose fibers. Paren et al. discloses a product containing polysilicic acid in the support structure of viscose cellulose causing the formation of aluminum silicate sites (abstract). Paren et al. discloses that the cellulose fibers containing the aluminum silicate sites had enhanced fire resistance. Thus, it would have been obvious to one having ordinary skill in the art to use the fire retardant viscose fibers disclosed by Paren et al. in the blend disclosed by Edwards since Paren et al. teaches that the viscose fibers have enhanced fire resistance. Thus, claims 5 – 8 and 15 – 20 are rejected.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jenna-Leigh Befumo whose telephone number is (571) 272-1472. The examiner can normally be reached on Monday - Friday (8:00 - 5:30).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Terrel Morris can be reached on (571) 272-1478. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Jenna-Leigh Befumo
August 22, 2005